ABSTRACT

A process for the preparation of hydrogen and carbon monoxide from a carbonaceous feedstock by: (a) partially oxidizing the feedstock in a vertically oriented tubular partial oxidation reactor vessel having a burner at its upper end thereby obtaining a first gaseous product of hydrogen and carbon monoxide; (b) catalytic steam reforming a carbonaceous feedstock in the presence of steam in a convective steam reformer zone thereby obtaining a steam reformer product; (c) reducing the temperature of the product of step (a) by mixing this product with the product of step (b); (d) contacting the mixture obtained in step (c) with a post reforming catalyst; and (e) providing the required heat for the convective steam reforming reaction zone in step (b) by convective heat exchange between the mixture obtained in step (d) and the steam reformer reactor zone thereby obtaining a hydrogen and carbon monoxide containing gas having a reduced temperature.